For what need?

Battle Plans for a New Century

Smaller, Mobile Units Stressed as Military Harnesses Range of Technologies

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On the Navy's drawing board is a next-generation missile capable of being retargeted in flight based on intelligence from the battlefield. The Air Force already is experimenting with an imaging system that could provide continuous intelligence about targets on the ground to pilots in their cockpits.

And the Army thinks it may have found a way to outdo CNN in obtaining instant, from-the-scene pictures: Miniature video cameras were recently fitted on the rifles of several soldiers in Haiti, enabling them to broadcast live images back to headquarters—and even by satellite to the Pentagon—of any action they might see.

As new technologies tumble into use by U.S. soldiers, Pentagon leaders have begun pressing the point that all the gee-whiz gadgetry and digital displays amount to more than incremental advances in the way America fights. With growing emphasis, the department's top civilian and military officials are championing the notion that the United States is in one of those rare historical periods when revolutions happen in how wars are fought and how branches of the military are organized.

The revolution derives not from any single invention or idea, the argument goes, but from a range of rapidly developing technologies that involve more powerful sensors and computers, radar-evading technology, precision-guided munitions and fiber-optic communications systems. To make full use of these technologies—and defend U.S. forces against potential adversaries that may acquire some of the same capabilities—the military services are being urged to move away from the notion of fighting in relatively large, sluggish and easily detectable land armies and aircraft carrier fleets.

Instead, advantage on the future battlefield, it is said, will fall to smaller, more mobile military units that rely on stealth technology and electronic warfare to evade enemies. In this vision, soldiers will be able to draw intelligence about their adversaries quickly and directly from continually updated electronic displays, then fire weapons from over the horizon without ever having to get close to targets. Joint task forces will blur present-day distinctions among the Army, Navy, Air Force and Marines and will

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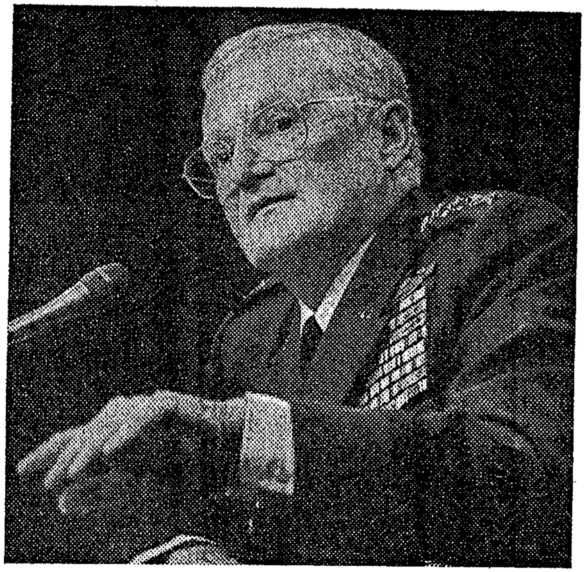

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—GEN. JOHN M. SHALIKASHVILI
Chairman, Joint Chiefs of Staff

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survive on logistical support systems much leaner than existing ones.

The Persian Gulf War, which had "smart" bombs dropping down chimneys, stealthy aircraft eluding radar detection and an airborne tracking system scouting Iraqi positions, "showed a snapshot of this revolution in progress," Gen. John M. Shalikashvili, chairman of the Joint Chiefs of Staff, told House and Senate committees in written remarks earlier this month, "What we set in motion is an entirely new era in warfare. . . . What is changing is the very nature of modern battle."

Cautious Commanders

Talk of dramatic change like this tends to be met with skepticism by the uniformed proprietors of the individual military services, who are having enough trouble adjusting to smaller budgets and fewer soldiers. While the service chiefs have expressed interest in studying the implications of the new technologies, they have sounded cautious about the pace and prospects for change and often argue for not losing sight of more immediate demands, such as coping with decidedly low-tech players in Haiti and Bosnia. Their budgets remain dominated by traditional systems such as aircraft carriers, destroyers, jet fighters and tanks.

But Shalikashvili and Defense Secretary William J. Perry have become believers in the new revolution, and their deputies—Adm. William Owens, vice chairman of the Joint Chiefs of Staff, and John M. Deutch, deputy defense secretary—are leading the campaign to effect changes in the operational concepts and organizational structures of the armed forces.

"We're at a sort of watershed time to think about the way we go about conducting our missions," said Owens in an interview."

Their intellectual godfather in this venture is Andrew Marshall, a 73-year-old strategist who has run the Pentagon's Office of Net Assessment since the Nixon administration. He has been arguing for several years that the United States has entered a period similar to the 1920s and 1930s, when advances in aircraft design, internal combustion engines, radio and radar led in the United States to breakthrough concepts in strategic aerial bombing, carrier aviation and modern amphibious warfare and, in Germany, to inception of the blitzkrieg.

"What's new is there are a number of people around now who agree with the notion that, yes, we are in a period with the technologies available that will lead to a difference of how we will fight," said Marshall, whose classified writings during the Cold War influenced military policy toward the Soviets and North Koreans. "The initial tasks are intellectual—to understand where the new technologies might take us."

Task Forces to Report

To this end, five task forces were set up last year to brainstorm about the long-term effects of what the Pentagon has dubbed the "Revolution in Military Affairs" (RMA). The task forces are to report to Deutch next month.

At the same time, Owens has spent the past year trying to turn a moribund committee of the vice chiefs of staff—the Joint Requirements Oversight Council (JROC)—into a vehicle for guiding how military funds are spent and formulating a consensus view on future warfare. One of his pet projects, meant to provide cheaper logistics and support functions, involves building a floating island by linking up a number of oil platforms that could accommodate cargo aircraft. Doubting Navy officials are studying the proposal.

Each military service has expanded its long-range planning efforts and agreed to participate in a series of war games under Marshall's direction that assume high-tech adversaries, boundless battlefields and seamless military operations.

"Within each service, the effort tends to be controversial," said James Blackwell, an executive with Science Applications International Corp., which has run some of the war games. "The argument against it is: In an era of limited resources, why spend money on such distant planning? I think the services have been willing to participate because as yet they feel no threat to their programmatic priorities."

The Army boasts the most structured process for rethinking future operations, touting a vague Force XXI concept that Army officials say will not be merely a downsized or digitized version of Cold War forces. The Marine Corps plans to present its own concept this summer and is forming an experimental squad of "starship troopers." The Air Force and Navy have no catchy futuristic programs yet, but do have projects imagining a world of enhanced battlefield intelligence, enlarged communications networks, space-based weaponry and sensor-to-shooter technologies.

Overcoming Inertia

Still, reinforcing a kind of "I'll-believe-it-when-I-see-it attitude" among many in the Pentagon is a reluctance to tamper with a U.S. military that now ranks as the best in the world, particularly since no one can clearly define the future threat. Moreover, skeptical commanders contend that none of the new technologies offers a silver bullet to deal with the kinds of messy, conventional threats that confront U.S. forces in places like Haiti and Bosnia.

"I don't think you can count on having perfect knowledge of the battlefield and everything will work just as you want it to every time," said Adm. Jeremy "Mike" Boorda, chief of naval operations. "You have to have a military that can fight either way or you risk being irrelevant in some situations."

Gen. Richard D. Hearney, assistant commandant of the Marine Corps, worries that the Pentagon's emphasis on high-tech warfare may overlook simpler technologies that could aid Army soldiers and Marines in urban combat operations. He warns, too, against overlooking the basics of soldiering.

"Sometimes we get so wrapped up in this RMA technology discussion that we forget the basics like leadership development," he said.

For now, the proponents of revolution appear content to keep pushing the notion in hopes it will attract more believers.

"I'd guess we are in the education phase, where you try to educate enough people to generate a critical mass," said Andrew Krepinevich, a former Army lieutenant colonel and deputy to Marshall, who heads the Defense Budget Project, an independent think tank in Washington. He has counted as many as 10 military revolutions since the 14th century, which saw infantrymen, enhanced by longbows, emerge for the first time as a combat force separate from the cavalry.

Owens and Deutch contend that precisely because the United States does not face a major military threat, it can risk more experimentation and innovation. But this opportunity-is-now argument goes against the grain of an institution like the Pentagon that has been motivated less by opportunity than by threat.

Proponents of the revolution say many of its seed elements, particularly in information-gathering and communications, already are here or just around the corner—including space-based infrared cameras and unmanned aerial reconnaissance vehicles, satellite communications networks, and global command and control systems. The trick, says Owens, is learning how to manage all the pieces in a way that yields "dominant battlefield awareness," then figuring out the war-fighting implications of such battlefield omniscience.

"What makes things different now from 10 years ago is that a lot of things are coming, it's no longer a Flash Gordon sort of dream," Owens said. "It is a challenge for us to realize that vision of the system of systems which are already in the defense budget."

As an example of the potential gains, Deutch said that in a war game played last summer, allied forces lacking "dominant battlefield awareness" required 28 days to repel a North Korean invasion of the south. But when the allies were assumed to have extensive intelligence about North Korean moves and intentions, they won in three days.

Progress on Interaction

For the moment, military leaders appear to have enough to do just getting existing service systems to interact—relaying reconnaissance and targeting information, for instance, among Air Force AWACS planes, Navy AEGIS ships and newly digitized Army tactical operation centers. Owens and other JROC members have spent considerable time discussing the synchronization and movement of information around the battlefield. A Joint Staff study found individual service information systems are more interconnected than officials had expected.

Still, one complaint commonly heard among Pentagon strategists is the absence of a firm integrating vision from the top.

"The catalyst you need to transform the thinking in the Defense Department is decisions on which technologies will be funded for development," said a Navy admiral who works on strategy issues. "Until then, there'll be too much of every service pursuing its own thing and too much defense of the status quo."

Owens is floating the idea of drafting a joint document that would spell out operational concepts for the next century. But for all the vice chairman's efforts to apply a more central discipline, his JROC remains in its infancy and handicapped by a dearth of objective analysis.

Deutch's RMA process, too, is falling short of initial expectations, with its task forces focusing more on the effect of near-term weapons systems rather than on challenges beyond the year 2020. But if the deputy secretary is disappointed in such limited bureaucratic imagination, he doesn't show it.

"What's necessary in the process is that people change the way they think," Deutch said. "It's not the formal reports that are important but how people think. I'd characterize what's happening now more as an intellectual infection than as a formal process."